

Rocky Flats

Environmental Technology Site

4-K56-ENV-OPS-FO.08

REVISION 3

MONITORING AND CONTAINERIZING DRILLING FLUIDS AND CUTTINGS

APPROVED BY: *M. C. Broussard* *M. C. Broussard* *10/22/95*
 Operations Manager Print Name Date
 Environmental Operations Management

Steve Luker *STEVE LUKER* *2.28.95*
 Quality Assurance Print Name Date
 Manager,
 Data Management and Reporting Services

DOE RFFO/ER Concurrence on file: ☒ Yes ☐ No ☐ NA

Environmental Protection Agency Approval Received: ☐ Yes ☒ No ☐ NA

Responsible Organization: Environmental Restoration Program Division Effective Date: 4/17/95 jib

CONCURRENCE BY THE FOLLOWING DISCIPLINES WILL BE DOCUMENTED IN THE
PROCEDURE HISTORY FILE:

Data Management and Reporting Services
 ERPD Environmental Operations Management
 ERPD Solar Ponds Project

Industrial Hygiene
 Occupational Safety
 Radiological Health and Engineering

USE CATEGORY 3

ORC review not required

The following have been incorporated in this revision:
 94-DMR-000799

**DOCUMENT CLASSIFICATION
 REVIEW WAIVER PER
 CLASSIFICATION OFFICE**

This procedure supersedes procedure 5-21000-OPS-FO.08, Revision 2.
 Periodic review frequency: 3 years from the effective date

Background Information: No Site procedure exists that will fulfill the requirements of this document. Good management practice requires proper methods of managing investigation derived materials (IDM) that are generated during environmental investigations. The IAG requires a procedural framework for developing, implementing, and monitoring appropriate response actions at the site in accordance with CERCLA, RCRA, and CHWA, implementing regulations of these statutes, including the NCP, and CERCLA, RCRA, and CHWA guidance and policy.

LIST OF EFFECTIVE PAGES

<u>Pages</u>	<u>Effective Date</u>	<u>Change Number</u>
1-24	4/17/95	94-DMR-000799

TOTAL NUMBER OF PAGES: 24

TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
TITLE PAGE	1
LIST OF EFFECTIVE PAGES	2
TABLE OF CONTENTS	3
1. PURPOSE	4
2. SCOPE	4
3. RESPONSIBILITIES	4
3.1 Rocky Flats ERPD Environmental Operations Management (EOM) Personnel	4
3.2 Rocky Flats Key Custodian	4
3.3 Rocky Flats Project Manager	5
3.4 Rocky Flats Radiological Control Technician (RCT)	5
3.5 Rocky Flats Radiological Engineering Personnel	5
3.6 Rocky Flats Waste Inspector	5
3.7 Subcontractor Field Personnel or Rocky Flats Personnel	6
3.8 Subcontractor Health and Safety Specialist (HSS)	6
3.9 Subcontractor Project Manager	6
4. LIMITATIONS AND PRECAUTIONS	7
5. PREREQUISITES	7
5.1 Planning and Coordination	7
5.2 Materials and Equipment	8
5.2.1 Measuring and Test Equipment (M&TE)	8
5.2.2 Special Tools and Equipment	8
5.2.3 Consumables	9
5.3 Field Preparation	9
6. INSTRUCTIONS	10
6.1 Field Monitoring	10
6.1.1 Field Monitoring Prior to the Start of Work	10
6.1.2 Field Monitoring During Work	11
6.2 Positive Measurement Verification	12
6.3 IDM	13
6.4 Depth Intervals and Associated Sample Criteria	15
6.5 Containerizing Soil and Sediment IDM in Gray Drums	16
6.6 Containerizing Soil and Sediment IDM in White Drums	17
6.7 Containerizing Drilling Fluids	18
6.8 Documentation	19
7. RECORDS	20
8. REFERENCES	20
<u>Appendixes</u>	
Appendix 1, Form FO.08A, Field Monitoring Results	22
Appendix 2, Form FO.08B, Verification of Organic Vapor Monitoring Result	24

1. PURPOSE

This procedure describes proper methods to manage investigation derived materials (IDM) (i.e., soil and sediment drill cuttings, drilling fluids, decontamination and wash water, and residual groundwater and surface water samples) generated during environmental investigations at the Rocky Flats Environmental Technology Site (Rocky Flats).

2. SCOPE

This procedure applies to Rocky Flats employees and subcontractors that are engaged in the following activities:

- Containerization of IDM
- Monitoring containerized IDM using organic vapor detectors (OVDs) and radiological detectors

3. RESPONSIBILITIES

3.1 Rocky Flats ERPD Environmental Operations Management (EOM) Personnel

Coordinates the issuance of Department of Transportation (DOT) approved containers to subcontractor field personnel or Rocky Flats personnel for environmental investigations.

Assists subcontractor field personnel or Rocky Flats personnel with the management of IDM drums.

Manages records and dispositions in accordance with ERPD procedures.

Places permanent custody seal and environmental labels on drums.

Coordinates and schedules waste inspection support.

Verifies current calibration of Measuring and Test Equipment.

3.2 Rocky Flats Key Custodian

Controls access to secured area containing white drums.

3.3 Rocky Flats Project Manager

Conducts a preliminary hazardous waste determination on the project work area.

Ensures that the Department of Energy (DOE) Project Manager concurs with the preliminary hazardous waste determination.

Supervises the containerization of IDM generated by subcontractor field personnel or Rocky Flats personnel during field activities.

Ensures compliance with United States Environmental Protection Agency (USEPA), Colorado Department of Public Health and Environment (CDPHE), and Rocky Flats requirements and procedures.

Ensures that all personnel, including subcontractors, have received Environmental Restoration Program Division (ERPD) specific training and are qualified to perform the duties, tasks, and responsibilities described in this procedure.

Forwards copies of documentation to the ERPD training files.

Manages records and dispositions in accordance with ERPD procedures.

3.4 Rocky Flats Radiological Control Technician (RCT)

Performs radiological monitoring when white drums are filled by subcontractor field personnel or Rocky Flats personnel.

3.5 Rocky Flats Radiological Engineering Personnel

Completes required training and qualifications.

Reviews or conducts radiological surveys in accordance with 5-21000-OPS-FO.16, Field Radiological Measurements.

Provides technical guidance when necessary on radiological issues.

3.6 Rocky Flats Waste Inspector

Completes required training and qualifications.

3.6 Rocky Flats Waste Inspector (continued)

Verifies compliance with Rocky Flats Waste Requirements Procedures (WRP), 4-D99-WO-1100, Solid Radioactive Waste Packaging Inside of the Protected Area, 4-C77-WO-1101, Solid Radioactive Waste Packaging Outside of the Protected Area, and 1-C88-WP-1027-NONRAD, Non-Radioactive Waste Packaging.

3.7 Subcontractor Field Personnel or Rocky Flats Personnel

Completes required training and qualification.

Ensures that IDM generated during field activity is containerized in accordance with this procedure and 4-F99-ENV-OPS-FO.23, Management of Soil and Sediment IDM.

Arranges for an Rocky Flats Waste Inspector and Rocky Flats RCT to be present during the filling of white drums.

Completes and transfers necessary paperwork for drums containing IDM to appropriate Rocky Flats ERPD EOM personnel.

Verifies current calibration of Measuring and Test Equipment.

3.8 Subcontractor Health and Safety Specialist (HSS)

Conducts radiological surveys, as necessary, in accordance with 5-21000-OPS-FO.16 and applicable Rocky Flats Environmental Management Radiological Guidelines (EMRGs).

3.9 Subcontractor Project Manager

Completes required training and qualifications.

Manages records and disposition in accordance with ERPD procedures.

Arranges for a Rocky Flats Waste Inspector to be present during the filling of white drums.

Ensures that all personnel, including subcontractors, have received Environmental Restoration Program Division (ERPD) specific training and are qualified to perform the duties, tasks, and responsibilities described in this procedure.

Documents required records are complete and accurate.

4. LIMITATIONS AND PRECAUTIONS

The types of contamination that may be encountered within potentially contaminated work areas include:

- Low-level radioactive contaminated materials
- Resource Conservation and Recovery Act (RCRA)-regulated hazardous materials
- Mixed (low-level radioactive and RCRA-regulated hazardous) materials
- Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and/or Toxic Substances Control Act (TSCA)-regulated hazardous substances
- Low-level radioactive and CERCLA and/or TSCA-regulated hazardous substances

5. PREREQUISITES

5.1 Planning and Coordination

NOTE *A preliminary hazardous waste determination for proper interim management of IDM generated by the field program must always be performed prior to the initiation of any intrusive field work. The preliminary hazardous waste determination will be based on a historical data and process knowledge review.*

Rocky Flats Project Manager

- [1] Conduct a preliminary hazardous waste determination in accordance with 4-F99-ENV-OPS-FO.23.

This determination will be performed on a case-by-case basis.

- [2] Inform subcontractor Project Manager and subcontractor field personnel or Rocky Flats personnel of preliminary hazardous waste determination results.

Subcontractor Project Manager or Rocky Flats Project Manager

- [3] Verifies that at a minimum of two subcontractor field personnel or Rocky Flats personnel are qualified, trained, and available to perform this procedure and in accordance with 1-C88-WP-1027-NONRAD and 1-10000-WRM-WO-4034, Radioactive Waste Packaging Requirements.

5.2 Materials and Equipment

Obtain the following equipment, if required, for field operations that generate IDM.

5.2.1 Measuring and Test Equipment (M&TE)

Subcontractor Field Personnel or Rocky Flats ERPD EOM Personnel

- [1] Ensure that the following equipment is available:
- OVD
 - Radiation detectors
 - Dust Monitors
 - Other equipment, as specified in the project-specific Health and Safety Plan (HASP)

5.2.2 Special Tools and Equipment

Subcontractor Field Personnel or Rocky Flats ERPD EOM Personnel

- [1] Ensure that the following equipment is available:
- DOT Approved White, 55-gal drums
 - DOT Approved Black/White, 55-gal drums
 - DOT Approved Gray, 30-gal or 55-gal drums
 - DOT Approved Green, 55-gal drums
 - Shovels and scoops with nonporous surfaces to facilitate decontamination
 - Black paint pens for drums
 - Permanent markers for labels
 - Tools for opening and sealing drums (e.g., bung wrench, socket wrenches, etc.)
 - Pallets

5.2.3 Consumables

Subcontractor Field Personnel or Rocky Flats ERPD EOM Personnel

- [1] Ensure that the following equipment is available:
 - 10-mil plastic liners for 55-gal drums
 - 5-mil plastic liners for 30-gal drums
 - Rocky Flats approved desiccant
 - Personal protective equipment (PPE) as specified in the project-specific HASP
 - Drum labels
 - Waste/Residue Traveler (RF 47386)

- [2] Ensure that the following forms are available:
 - EMRGs Form 1.1B
 - Form FO.08A
 - Form FO.08B
 - Form FO.10A
 - Form FO.23A
 - Form FO.29E

5.3 Field Preparation

Subcontractor Field Personnel or Rocky Flats Personnel

- [1] OVD shall be calibrated in accordance with 5-21000-OPS-FO.15, Photoionization Detectors (PIDs) and Flame Ionization Detectors (FIDs)

- [2] Radiological measurement equipment shall be calibrated in accordance with 5-21000-OPS-FO.16.

- [3] Drums shall be lined with appropriate rigid liners in accordance with 4-K56-ENV-OPS-FO.10, Receiving, Marking, and Labeling Environmental Materials Containers, 4-D99-WO-1100, 4-C77-WO-1101, and 1-C88-WP-1027-NONRAD.

- [4] Prior to filling drums, Rocky Flats approved desiccant shall be placed in drums, as necessary.

- [5] **IF** uncertain concerning type or amount of desiccant that should be added, **THEN** contact Rocky Flats ERPD EOM personnel.

6. INSTRUCTIONS

6.1 Field Monitoring

Field monitoring will be conducted in accordance with this procedure and the project-specific HASP. For most field operations, OVD, alpha and beta-gamma radiological, and dust monitoring will be conducted. All monitoring results will be recorded on Form FO.08A.

6.1.1 Field Monitoring Prior to the Start of Work

Subcontractor HSS or Rocky Flats Radiological Engineering Personnel

- [1] Conduct a radiological survey in accordance with 5-21000-OPS-FO.16.
 - [A] Record the radiological survey results on EMRGs Form 1.1B, 3-21000-EMRG, Environmental Management Radiological Guidelines Manual.
 - [B] **IF** applicable,
THEN measure background radiological and dust monitoring levels.
 - [C] Record all background measurements on Form FO.08A.
- [2] Conduct OVD measurement within each work area in accordance with 5-21000-OPS-FO.15, to ensure worker safety and to determine that proper PPE is worn by workers.

6.1.2 Field Monitoring During Work

NOTE 1 *Single OVD or radiological measurements greater than background may indicate the presence of hazardous or radiological contaminants and shall be verified as described in Section 6.2.*

NOTE 2 *Intrusive work shall stop when an OVD or field radiological measurement above background is detected. The verification operations shall be completed prior to resuming intrusive work. Verified OVD or radiological measurements greater than background could alter the planned work. If this should happen, the Rocky Flats Project Manager shall be notified before work is continued.*

Subcontractor Field Personnel or Rocky Flats Personnel

[1] Monitor for organic vapors, radiological contaminants, and dust where the intrusive work is occurring, in accordance with the project-specific HASP.

[A] Record the results on Form FO.08A.

[2] **IF** hollow-stem augers are being used,
THEN monitor inside the auger when the drive head is removed.

[A] Record the results on Form FO.08A.

[3] **IF** solid-stem augers are being used,
THEN monitor the drill cuttings periodically.

[A] Record the results on Form FO.08A.

[4] Monitor each drill core for organic vapors and radiological contaminants prior to removing the core from the core barrel.

[A] Record the results on Form FO.08A.

[5] **IF** the drill core is wet,
THEN take smears from inside the core barrel to monitor for the presence of radiological contaminants.

[6] Document smear results and smear number on Form FO.08A in accordance with EMRG Form 1.1B, 3-21000-OPS-EMRG.

6.2 Positive Measurement Verification

Subcontractor Field Personnel or Rocky Flats Personnel

- [1] **IF** an OVD measurement is greater than the background measurement,
 THEN perform positive measurement verification steps.

- [2] Record the verification results on Form FO.08B.

- [3] Turn off any diesel or gasoline driven engines operating in the work area upwind of the
 measurement location, since most OVDs will detect incomplete combustion by-products.

- [4] Remove the OVD from the work area, and take an upwind measurement of ambient
 organic vapor.

 [A] Record the results on Form FO.08B.

- [5] Take a second measurement at the same location where the first positive measurement
 was recorded.

 [A] Record the results on Form FO. 08B.

- [6] **IF** the second measurement is not above background,
 THEN repeat the preceding actions for a third measurement.

 [A] Record the results on Form FO.08B.

- [7] **IF** any two of the three measurements (including the original measurement) indicate
 organic vapor levels greater than the background level,
 THEN the original measurement has been verified.

- [8] **IF** greater than background levels of organic vapor levels are verified,
 THEN stop work,
 AND notify the subcontractor Project Manager or Rocky Flats Project Manager.

- [9] **IF** less than background levels of organic vapor levels are present,
 THEN continue with field work.

6.3 **IDM**

Various types of IDM are generated during environmental investigation field activities. Solid IDM generated during field activities include soil and sediment drill cuttings. Liquid IDM generated during field activities include drilling fluids, decontamination and wash water, and residual groundwater and surface water samples. Disposable PPE, although not IDM, is also generated during field activities. PPE will be handled in accordance with 5-21000-OPS-FO.06, Handling of Personal Protective Equipment.

WARNING

Drums filled with contents that have been designated as potentially hazardous through the preliminary hazardous waste determination shall not be stored overnight at a borehole location. These drums should be transferred to the custody of Rocky Flats ERPD EOM personnel on the day filled in accordance with 4-K56-ENV-OPS-FO.10. Improper storage of these drums can potentially result in noncompliance with state and federal regulations, contamination of personnel, equipment, and surrounding areas.

Subcontractor Field Personnel or Rocky Flats Personnel

- [1] **IF** based on hazardous waste determination, in accordance with this procedure, 4-C77-WO-1101, or 4-D99-WO-1100, the site is known to potentially contain low-level or mixed (low-level radioactive and RCRA-regulated) radioactive solid or liquid IDM, **THEN** containerize the IDM resulting from the drilling operations in white 55-gal drums in accordance with 4-D99-WO-1100 and 4-C77-WO-1101.
- [2] **IF** based on hazardous waste determination, in accordance with this procedure, the site is known to potentially contain non-radioactive, non-RCRA, and non-TSCA soil or sediment IDM, **THEN** containerize the soil and sediment IDM resulting from the drilling operation in gray 55-gal or 30-gal drums in accordance with 1-C88-WP-1027-NONRAD.
- [3] **IF** based on hazardous waste determination, in accordance with this procedure or 1-C88-WP-1027-NONRAD, the site is known to potentially contain non-radioactive, non-RCRA and non-TSCA non-solid IDM wastes (e.g., drilling fluids), **THEN** containerize the wastes resulting from the drilling operation in green 55-gal drums or other appropriately sized containers in accordance with 1-C88-WP-1027-NONRAD.

6.3 IDM (continued)

- [4] **IF** based on hazardous waste determination, in accordance with this procedure or 1-C88-WP-1027-NONRAD, the site is known to potentially contain non-radioactive, RCRA and/or TSCA solid or liquid IDM,
THEN containerize the IDM resulting from the drilling operations in black/white 55-gal drums in accordance with 1-C88-WP-1027-NONRAD.

Rocky Flats ERPD EOM and Subcontractor Field Personnel or Rocky Flats Personnel

- [5] Manage soil and sediment IDM in accordance with 4-F99-ENV-OPS-FO.23.

Rocky Flats Project Manager

- [6] Evaluate disposition of soil and sediment IDM in accordance with 4-H46-ENV-OPS-FO.29, Disposition of Soil and Sediment IDM.

Rocky Flats ERPD EOM Personnel and Subcontractor Field Personnel

- [7] Manage PPE in accordance with 5-21000-OPS-FO.06.
- [8] Manage and dispose of drilling fluids in accordance with directions received from the Rocky Flats Project Manager and Rocky Flats ERPD EOM personnel.
- [9] Manage decontamination and wash water in accordance with 5-21000-OPS-FO.07, Handling of Decontamination Water and Wash Water.
- [10] Manage and dispose of residual groundwater and surface water samples in accordance with directions received from the Rocky Flats Project Manager and Rocky Flats ERPD EOM personnel.
- [11] **IF** drill cuttings generated during geophysical surveys or soil gas surveys were monitored with field screening instruments,
AND if NOT in an IHSS, PAC, or ACC,
AND if there were no positive detects above background,
THEN send drill cuttings to the sanitary landfill with proper documentation,
AND will not be containerized in drums.
- [12] **IF** drill cuttings generated during geophysical surveys or soil gas surveys have positive detects for radioactive or volatile organic compounds above background,
THEN halt all job activity,
AND contact the subcontractor Project Manager and Rocky Flats Project Manager,
AND drum the material as per Steps [1], [2], or [3].

6.4 Depth Intervals and Associated Sample Criteria

NOTE 1 *This procedure does not apply to projects where composite sampling is conducted strictly for drum characterization.*

NOTE 2 *Analytical samples within the drum depth interval shall be used for drum characterization. IDM within a given drum shall indicate the depth from which the material was derived (e.g., Drum Number One, 0 to 8 feet and Drum Number Two, 8 to 16 feet).*

Subcontractor Field Personnel or Rocky Flats Personnel

- [1] Place drill cuttings from drilling activities in drums designated by the drilled interval and the depth interval.

The drilled interval represents the top and bottom footage of material contained in a specific drum. The depth interval shall be from the top of the drilled interval to the bottom of the drilled interval.

EXAMPLE - Drilled Interval

Drum Number	Depth Interval	Drilled Interval
1	0 - 8 feet	8 feet
2	8 - 16 feet	8 feet

- [2] **IF** reaming (or overdrilling) is required at a borehole,
THEN the depth interval will be from the ground surface to the borehole total depth.

6.5 Containerizing Soil and Sediment IDM in Gray Drums

Soil and sediment IDM that are obtained from a site known to contain non-radioactive materials and that require containerization in accordance with 4-F99-ENV-OPS-FO.23 will be placed in gray open top drums with liners.

Subcontractor Field Personnel or Rocky Flats Personnel

- [1] **IF** gray 55-gal drums are used to containerize soil and sediment IDM,
 THEN place one 10-mil round-bottomed bag in the drum.

[A] Place a Rocky Flats approved desiccant in the drum in accordance with the manufacturer's instructions.

[B] **IF** uncertain of the type and amount of desiccant that should be added,
 THEN contact Rocky Flats ERPD EOM personnel.

NOTE *Six inches of freeboard is required for freeze protection.*

Soil and sediment IDM may be placed in the 55-gal drums up to 6 in. from the top.

- [2] **IF** gray 30-gal drums are used to containerize soil and sediment IDM,
 THEN place two 5-mil plastic drum liners in the drum.

[A] Place a Rocky Flats approved desiccant in the drum in accordance with the manufacturer's instructions.

[B] **IF** uncertain of the type and amount of desiccant that should be added,
 THEN contact Rocky Flats ERPD EOM personnel.

NOTE *Six inches of freeboard is required for freeze protection.*

Soil and sediment IDM may be placed in the 30-gal drums up to 6 in. from the top.

- [3] Place drums on a level pallet at the drilling site and position the pallet so that a fork lift will be able to pick them up.

Both empty and filled drums at the work area should be stored on pallets with no more than three 55-gal or four 30-gal drums per pallet.

- [4] Label gray drums in accordance with 4-K56-ENV-OPS-FO.10.

6.5 Containerizing Soil and Sediment IDM in Gray Drums (continued)

- [5] Tighten drum lids in accordance with the specifications outlined in 1-C88-WP-1027-NONRAD.

Drum lids will be considered secured when the bolt ring is placed 90 degrees counter-clockwise from the seam.

- [6] Place a temporary sample custody seal on the bolt or ring assembly until Rocky Flats ERPD EOM personnel place a permanent custody seal and an environmental label on the drum.
- [7] Fill out and place an "On-Site Hazardous Waste" label on the drum below the drum bolt on the upper third of the drum in accordance with 4-K56-ENV-OPS-FO.10.

Rocky Flats Project Manager

- [8] Instruct subcontractor field personnel or Rocky Flats ERPD EOM personnel to manage drums in accordance with 4-F99-ENV-OPS-FO.23.
- [9] Evaluate disposition of drums in accordance with 4-H46-ENV-OPS-FO.29.

6.6 Containerizing Soil and Sediment IDM in White Drums

Soil and sediment IDM that, based on the preliminary hazardous waste determination, require placement in white drums will be containerized in accordance with 4-D99-WO-1100 and 4-C77-WO-1101.

Subcontractor Field Personnel or Rocky Flats Personnel

- [1] **IF** subcontractor field personnel or Rocky Flats personnel will be filling white drums, **THEN** arrange for an Rocky Flats Waste Inspector to be present when filling white 55-gal drums.

Rocky Flats Radiological Control Technician

- [2] **WHEN** white 55-gal drums are filled, **THEN** there must be radiological monitoring.
- [A] Record radiological monitoring results on the "Radioactive On-Site Shipping" labels, and the Waste/Residue Traveler (RF 47386).

6.6 Containerizing Soil and Sediment IDM in White Drums (continued)

Subcontractor Field Personnel or Rocky Flats Personnel

- [3] Prior to filling the drum, place the appropriate liners in accordance with 4-D99-WO-1100 or 4-C77-WO-1101 and Rocky Flats approved desiccant in the drum.

The amount of desiccant used will be determined by reading the manufacturer's directions.

- [4] **IF** uncertain of the amount of desiccant that should be added,
THEN contact Rocky Flats ERPD EOM personnel.

Cuttings may be placed in the white drums up to 6 in. from the top. Six in. of freeboard is required for freeze protection.

- [5] Place drums on a level pallet at the drilling site.

White drums shall not be stored outside or unattended and must be locked up in a secure area by a Rocky Flats Key Custodian.

- [6] Tighten drum lids in accordance with the specifications outlined in 4-D99-WO-1100 and 4-C77-WO-1101.

Rocky Flats Waste Inspector

- [7] Observe packaging and closing of drum making sure the waste generators are using a calibrated torque wrench.

6.7 Containerizing Drilling Fluids

Liquid IDM (e.g., environmental liquids) produced during drilling that require containerization in accordance with 4-F99-ENV-OPS-FO.23 will be placed in black/white, if potentially non-radioactive, RCRA and/or TSCA; white, if potentially low-level radioactive or mixed; or green, if potentially non-radioactive, non-RCRA, and non-TSCA 55-gal drums or other appropriately-sized containers.

Subcontractor Field Personnel or Rocky Flats Personnel

- [1] **IF** the amount of sediment within the environmental liquids is substantial,
THEN decant environmental liquids from one drum (or container) to another (or from a trough to a drum or container) prior to moving.

6.7 Containerizing Drilling Fluids (continued)

- [2] Place residual sediments in appropriately colored drums according to the procedures for soil and sediment IDM above.
- [3] Place drums on a level pallet at the drilling site.

Both empty and filled drums that remain at the work area should be stored on pallets with no more than three 55-gal or four 30-gal drums per pallet. White drums shall not be stored outside or unattended and must be locked up in a secure area by a Rocky Flats Key Custodian.

- [4] Label environmental liquid containers as described in 5-2100-OPS-FO.10.

EOM Personnel and Subcontractor Field Personnel or Rocky Flats Personnel

- [5] Management and disposition of environmental liquids will be in accordance with directions received from the Rocky Flats Project Manager.

6.8 Documentation

Subcontractor Field Personnel or Rocky Flats Personnel

- [1] Document the radiological survey results on Form 1.1B, 3-21000-OPS-EMRGs.
- [2] Document field monitoring on Form FO.08A, Field Monitoring Results.
- [3] Use Form FO.08B, in addition to Form FO.08A to validate any OVD measurements greater than background. If needed, Form FO.08B has space to record multiple verification measurements.

7. **Documentation (continued)**

Rocky Flats Project Manager and Rocky Flats ERPD EOM Personnel

- [4] Manage forms associated with drums of IDM. Drums issued to a subcontractor by Rocky Flats will have an associated Form FO.08A, Field Monitoring Results and potentially a Form FO.08B, Verification of Organic Vapor Monitoring Results in accordance with this procedure, Form FO.10A, Drum Log Form in accordance with 4-K56-ENV-OPS-FO.10, Form FO.23A, Soil and Sediment IDM Form in accordance with 4-F99-ENV-OPS-FO.23, and a Form FO.29E, Computer-Generated IDM Classification Form in accordance with 4-H46-ENV-OPS-FO.29. A completed Rocky Flats Waste/Residue Traveler (RF 47386) will also be associated with every drum.

7. **RECORDS**

Management of all records is consistent with 1-77000-RM-001, Records Management Guidance for Records Sources.

ERPD RECORDS SOURCE

- [1] Ensure that the original and one copy of the following quality-related records, as appropriate, are transmitted to the ERPD Project File Center in accordance with 2-G18-ER-ADM-17.01, Record Capture and Transmittal:

- Waste/Residue Traveler (RF 47386)
- EMRGs Form 1.1B
- Form FO.08A
- Form FO.08B
- Form FO.10A
- Form FO.23A
- Form FO.29E

Submission of record copies to the ERPD Project File Center satisfies Administrative Records Requirements, as defined in 3-2100-ADM-17.02, Administrative Records Screening and Processing.

8. **REFERENCES**

NIOSH/OSHA/USCG/EPA, Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities.

1-C88-WP-1027-NONRAD, Non-radioactive Waste Packaging

1-10000-WRM-WO-4034, Radioactive Waste Packaging Requirements

1-77000-RM-001, Records Management Guidance for Records Sources

1-94700-Traffic-110, On-Site Transportation Manual

2-G05-ER-ADM-05.10, Control of Scientific Notebook Systems

2-G18-ER-ADM-17.01, Records Capture and Transmittal

3-21000-ADM-17.02, Administrative Records Screening and Processing.

3-21000-OPS-EMRG, Environmental Management Radiological Guidelines Manual

4-C77-110, Solid Radioactive Waste Packaging Outside of the Protected Area

4-D99-WO-1100, Solid Radioactive Waste Packaging Inside of the Protected Area

4-F99-ENV-OPS-FO.23, Management of Soil and Sediment Investigation Derived Materials (IDM)

4-H46-ENV-OPS-FO.29, Disposition of Soil and Sediment IDM

4-K56-ENV-OPS-FO.10, Receiving, Marking, and Labeling Environmental Materials Containers

5-21000-OPS-FO.06, Handling of Personal Protective Equipment

5-21000-OPS-FO.07, Handling of Decontamination Water and Wash Water

5-21000-OPS-FO.15, Photoionization Detectors (PIDs) and Flame Ionization Detectors (FIDs)

5-21000-OPS-FO.16, Field Radiological Measurements

APPENDIX 1

Form FO-08A

Page 1 of 2

FIELD MONITORING RESULTS

1. Project Name: _____ Site Number: _____
Date: _____

2. HISTORICAL CHARACTERIZATION (Check One)

Not Potentially Contaminated ☐ Low-Level RAD ☐
Hazardous ☐ Mixed ☐

3. EQUIPMENT INFORMATION AND BACKGROUND MEASUREMENTS

Manufacturer and Model No.	Serial Number	Probe Type	Probe Serial No.	Calibration Due Date	Background Reading	Units (e.g., cpm ppm)

4. FIELD MONITORING (Put NA in any columns that are Not Applicable)

Depth Interval (feet)	Time	OVD* (ppm)	Alpha RAD* Monitoring (cpm)	Beta-Gamma RAD* Monitoring (cpm)	Dust Monitoring (mg/m ³)	Associated Sample Numbers	Smear No.

* If any OVD measurements are above background measurements, Form FO.08B will be completed for verification.

Completed By: _____
(Print Name) (Signature) (Date)

Subcontractor/Contractor: _____
(Company)

APPENDIX 1

Form FO-08A

Page 2 of 2

FIELD MONITORING RESULTS

1. Project Name: _____ Site Number: _____

Date: _____

2. HISTORICAL CHARACTERIZATION (Check One)

Not Potentially Contaminated ☐ Low-Level RAD ☐

Hazardous ☐ Mixed ☐

3. EQUIPMENT INFORMATION AND BACKGROUND MEASUREMENTS

Manufacturer and Model No.	Serial Number	Probe Type	Probe Serial No.	Calibration Due Date	Background Reading	Units (e.g., cpm ppm)

4. FIELD MONITORING (Put NA in any columns that are Not Applicable)

Depth Interval (feet)	Time	OVD* (ppm)	Alpha RAD* Monitoring (cpm)	Beta-Gamma RAD* Monitoring (cpm)	Dust Monitoring (mg/m ³)	Associated Sample Numbers	Smear No.

* If any OVD measurements are above background measurements, Form FO.08B will be completed for verification.

Completed By: _____
(Print Name) (Signature) (Date)

Subcontractor/Contractor: _____
(Company)

APPENDIX 2

Form FO-08B

Page 1 of 1

VERIFICATION OF ORGANIC VAPOR MONITORING RESULTS

1. Project Name: _____

Date: _____ Site Number: _____

2. HISTORICAL CHARACTERIZATION (Check One):

Not Potentially Contaminated
Hazardous

☐
☐

Low-Level RAD
Mixed

☐
☐

3. PREWORK/BACKGROUND ORGANIC VAPOR MONITORING RESULTS

Instrument Used: _____ Serial No. _____

(Numeric Value): _____ (Units, e.g., ppm): _____

4. VERIFICATION MEASUREMENTS

Time	Depth (Ft)	Initial Reading (ppm)	First Background Check * (ppm)	First Verification Reading * (ppm)	Second Background Check (ppm)	Second Verification Reading (ppm)	Comments

* If either of the verification measurements are above the preceding background measurement, the initial measurement has been verified.

Completed By: _____
(Print Name) (Signature) (Date)

Subcontractor/Contractor: _____
(Company)